COUNTY OF SAN DIEGO

REPORT FORMAT & CONTENT REQUIREMENTS

TRANSPORTATION AND TRAFFIC

LAND USE AND ENVIRONMENT GROUP

Department of Planning and Land Use
Department of Public Works

First Revision
December 5, 2007

APPROVAL

I hereby certify that these **Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic** are a part of the County of San Diego, Land Use and Environment Group's Guidelines for Determining Significance and Technical Report Format and Content Requirements and were considered by the Director of Planning and Land Use, in coordination with the Director of Public Works on the 5th day of December, 2007.

ERIC GIBSON
Interim Director of Planning and Land Use

JOHN SNYDER
Director of Public Works

I hereby certify that these **Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic** are a part of the County of San Diego, Land Use and Environment Group's Guidelines for Determining Significance and Technical Report Format and Content Requirements and have hereby been approved by the Deputy Chief Administrative Officer (DCAO) of the Land Use and Environment Group on the 5th day of December, 2007. The Director of Planning and Land Use is authorized to approve revisions to these Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic, except any revisions to Section 4.0 of the Guidelines for Determining Significance for Transportation and Traffic must be approved by the Deputy CAO.

Approved, December 5, 2007

Text
First Revision
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Approved
September 26, 2006

CHANDRA WALLAR
Deputy CAO

PURPOSE

These Transportation and Traffic Report Format and Content Requirements provide guidance on conducting traffic impact studies and preparing reports for discretionary projects being processed by the Land Use and Environment Group. These guidelines are designed to:

1. Ensure the quality, accuracy and completeness of traffic impact studies and reports.

2. Aid in staff's efficient and consistent review of maps and documents from different consultants.

3. Provide adequate information to make appropriate planning decisions and to make determinations regarding conformance with applicable regulations.

4. Increase the efficiency of the environmental review process and avoid unnecessary time delays.

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1.0 INTRODUCTION

The purpose of a traffic impact study is to evaluate potential project level and cumulative traffic impacts that may result from a proposed project. Substantial traffic volume increases on roadways or intersections may cause congestion at existing or future roads and intersections. Traffic volume increases may occur from trips generated by the proposed project or a redistribution of traffic that would result from the proposed project. A detailed analysis of the traffic generated or redirected by a proposed project, assessment of potential impacts, and identification of mitigation measures for significant traffic impacts are the main focus of a traffic impact study.

For all discretionary development and public works projects, County staff will evaluate the need for a Traffic Impact Study (TIS). Guidelines for determining when and the type of traffic study are provided in Section 2.1 below. These are intended to serve as a guideline and are not intended to replace sound traffic engineering judgment. The analysis of traffic issues, evaluation of traffic impacts, and development of mitigation measures for traffic impacts are complex tasks. The type and scope of a traffic impact study will vary based upon the size of a project, its location and other factors. Typically, a traffic impact study will include several components as outlined in Section 3.1.

2.0 TRAFFIC IMPACT STUDY GUIDANCE

Under CEQA, traffic impacts will be evaluated for every discretionary land use project, however not all projects require a TIS. The different types of traffic impact studies and the typical criteria that trigger them are discussed below:

2.1 Criteria for Need to Prepare & Types of Traffic Impact Studies

All discretionary projects and public works projects are required to be evaluated to determine the potential for project-level (direct) or cumulative traffic impacts that may result from implementation of the proposed project. Table 1 below, highlights the typical criteria used (based on ADTs) to determine if a TIS is required and what type of TIS is most appropriate. Figure 1 - Significant Project Traffic Impact Assessment Flow Chart is also a useful tool for assessing traffic impacts.

Table 1 - County Criteria for the Need to Prepare a Traffic Impact Study (TIS)

PROJECT GENERATED TRAFFIC*	FOCUSED TIS	FULL TIS NEEDED	CONGESTION MANAGEMENT ANALYSIS NEEDED
Less than 200 Average Daily Trips OR Less than 20 Peak Hour Trips	No	No	No
500 Average Daily Trips OR 50 Peak Hour Trips	Yes	No	No
1,000 Average Daily Trips OR 100 Peak Hour Trips	No	Yes	No
2,400 Average Daily Trips OR 200 Peak Hour Trips	No	Yes	Yes

***** Other situations could result in a request for an Issue Specific or Focused Traffic Impact Study. These include, but are not limited to, those issues addressed in this report.
NOTE: Analysis of cumulative traffic impacts may require a Traffic Impact Study, even when project generated traffic volumes alone do not.

2.1.1 Issue Specific Traffic Impact Study

Generally, an issue specific TIS will be required for projects that generate between 200 and 500 average daily trips (ADT) or between 20 and 50 peak hour trips that may potentially impact or alter the design of a nearby intersection or road segment. Typically, the scope of an issue specific traffic study is limited to nearby roads receiving over 200 ADT (100 ADT is adjacent road is operating at LOS F) and intersections receiving over 20 peak hour trips (5 peak hour trips on a critical move for an adjacent intersection operating at LOS F). County staff may also based upon a field review, public comment, or recommendations of a planning group require an issue specific TIS to address particular traffic issues. For example, an examination of available sight distance, driveway access, access road geometrics and capacity, parking capacity, intersection analysis or a signal timing study are issue specific/focused studies that could be required.

All discretionary projects are required to evaluate project-level (direct) and cumulative traffic impacts that may include preparation of a TIS. When a proposed project generates less than 200 average daily trips (ADT), in most cases (given the distribution of traffic onto County Circulation Element roads and the traffic impact criteria identified

in Table 1), the proposed project will not result in direct traffic impacts. If the proposed project distributes over 100 ADT onto a County Circulation Element Road operating at LOS F, however, a direct impact may be identified. Improvements to mitigate the added delay caused by the project would need to be identified. A traffic assessment to assist in the identification of appropriate mitigation may be required.

When the applicant/proposed project participates fully in the County's TIF program, no additional cumulative traffic impact assessment will be required unless the proposed project is adjacent to or nearby another local jurisdiction where the potential for direct or cumulative traffic impacts exists. If the proposed project is located adjacent to another jurisdiction or in close proximity to a freeway ramp, additional cumulative traffic impacts outside the unincorporated area and not identified in the County's TIF program may occur. The applicant should coordinate with those jurisdictions or agencies regarding any potential need for traffic studies or mitigation.

2.1.2 Focused Traffic Impact Study (TIS)

A focused TIS shall be prepared for all discretionary projects that generate between 500 and 1,000 total average daily trips (ADT) or between 50 and 100 peak-hour trips. The focused TIS shall assess potential traffic impacts to nearby local roads (streets) and intersections. The scope of the assessment of direct traffic impacts should include the assessment of transportation facilities that would receive 25 or more peak hour trips from the proposed project. Other criteria for determining whether a focused traffic analysis is required may include the following:

- The proposed project includes a driveway to be located on a Circulation Element Road within 150 feet of an intersection with another Circulation Element Road.

- The proximity of transportation facilities currently operating at LOS E or F.

- The project includes a driveway that intersects an on-street bicycle lane or crosswalk in an area of high pedestrian activity.

- There are access risks or deficiencies associated with the adjoining street system due to curves, slopes, walls or other barriers to adequate lines of sight.

- The proposed project will result in a road alignment or design, which is inconsistent with the General Plan or community plan for the area or does not align with adjoining or proposed roads.

When the applicant/proposed project participates fully in the County's TIF program, only a focused cumulative traffic impact assessment will be required. Per the TIF Ordinance, the County may require a developer to install improvements with supplemental size, length, or capacity in order to ensure efficient and timely construction of the transportation facilities network. The focused cumulative traffic assessment will aide in this determination. When required the scope of the cumulative traffic assessment

should include the same intersections and roads that were assessed in the direct portion of the traffic study. In addition, if the proposed project is located adjacent to another jurisdiction or in close proximity to a freeway ramp, additional cumulative traffic impacts out side the unincorporated area and not identified in the County's TIF program may occur. The applicant should coordinate with those jurisdictions or agencies regarding any potential need for traffic studies or mitigation.

When the applicant/proposed project does not fully participate in the County's TIF Program a full, complete and detailed cumulative traffic assessment will be required. Scoping of the detailed cumulative traffic assessment will extend beyond the 25 peak hour trip limit specified above and should include all roads and intersections that may be cumulatively impacted by the proposed project. The detailed cumulative traffic analysis must be based upon the summary of projects approach and include an assessment forecast of the traffic volumes and impacts that would result from build-out of the general land uses/projects that would be constructed in the future.

2.1.3 Full Traffic Impact Study (TIS)

A full TIS shall be prepared for all discretionary projects that generate 1,000 or more total average daily trips (ADT) or 100 or more peak-hour trips. The full TIS shall assess potential impacts to regional arterials and state highways in addition to the potential impacts to nearby local roads (streets) and intersections.

A Congestion Management Program (CMP) analysis is required for all large projects, which are defined as generating 2,400 or more average daily trips or 200 or more peak-hour trips. Computerized long-range forecasts and select zone assignments are required by the CMP for these large projects to aide in the determination of the proposed project's trip distribution. In addition, Caltrans may require a TIS when a proposed project will likely generate or redirect traffic that impacts a State highway or freeway (especially entrance and exit ramps). Please refer to the flow chart (Figure 1) for TIS requirements.

The geographic area examined in the full TIS or CMP analysis should include the following:

- Local roads and intersections as determined through coordination with the local planning group and County staff. Typically, this will include the access roads and the intersection of local roads with a Circulation Element road.

- All regional arterials (including all State surface routes), intersections, and mainline freeway locations where the proposed project will add 50 or more peak-hour trips in either direction to the existing roadway traffic.

- Freeway entrance and exit ramps as determined by coordination with Caltrans. These are defined as entrance and exit ramps that are currently experiencing a 15-min delay, which, combined with the proposed project, will add 20 or more

peak hour trips to the ramp. (NOTE: Care must be taken to include other ramps and intersections that may receive project traffic diverted as a result of already existing, or projected congestion at freeway entrances and exits.)

All full traffic impact studies shall include a cumulative traffic assessment that evaluates the near-term cumulative traffic impacts of the proposed project. The scope of the full cumulative traffic assessment shall include those roads and intersections that will receive 25 peak hour trips. Roads and intersections in the vicinity of the proposed project that are operating at LOS E or F may require additional analysis if they were not addressed in the County's TIF Program. Per the County's TIF Ordinance, the County may require a developer to install improvements with supplemental size, length, or capacity in order to ensure efficient and timely construction of the transportation facilities network. The full cumulative traffic assessment will aide in this determination. The full cumulative traffic assessment will also allow for more detailed discussion of the projects potential traffic impacts during public review and in any environmental documents that are prepared for the proposed project. If the proposed project is located adjacent to another jurisdiction or in close proximity to a freeway ramp, additional cumulative traffic impacts outside the unincorporated area and not identified in the County's TIF program may occur. The applicant should coordinate with those jurisdictions or agencies regarding any potential need for traffic studies or mitigation.

If an applicant/proposed project chooses not to fully participate in the County's TIF Program a full, a complete and detailed cumulative traffic assessment will be required. Scoping of the cumulative traffic assessment will extend beyond the 25 peak hour trip limit specified above and should include all roads and intersections that may be cumulatively impacted by the proposed project. The detailed cumulative traffic analysis must be based upon the summary of projects approach and include an assessment forecast of the traffic volumes and impacts that would result from build-out of the general land uses/projects that would be constructed in the future.

2.1.4 Traffic Impact Study for Projects Proposing to Amend the County's General Plan

Projects that propose changes to the County's General Plan or zoning and that will increase the density or intensity of development above that of the adopted General Plan must prepare a plan-to-plan analysis. The plan-to-plan analysis must assess potential impacts to the County's General Plan Circulation Element Roads at build-out of the County's General Plan. Projects that include near-term development and propose a change to the County's General Plan or existing zoning must provide an overall analysis assessing existing, cumulative and build-out conditions.

2.1.5 Traffic Impact Study for a Publicly Initiated Road Improvement Project

Publicly initiated road improvement projects do not, in themselves, generate additional trips. They may, however, cause a redistribution of trips on the local or regional road network. Whenever the proposed road improvement project redistributes 500 or more

average daily trips or 50 or more peak hour trips, a focused or full TIS shall be prepared as per the criteria outlined above. A separate or communal traffic needs assessment may also be performed to help establish the purpose and need of the road improvement project.

2.2 Traffic Impact Study Methodology

Evaluations of traffic safety impacts and hazards to pedestrians or bicyclists shall be based upon a field review and the collection of both qualitative and quantitative data. An evaluation of compliance with the County of San Diego Public Road Standards and the San Diego County Standards for Private Streets may be made. If a design modification is requested, the provisions and criteria outlined in the design modification shall apply. When applicable, a summary of existing accident data on a road segment or at an intersection may also be provided.

Levels of Service for arterial road segments may be estimated on an ADT/24-hour traffic volume basis. Table 1 (page 9) of the County of San Diego Public Road Standards may be used for roads located within the unincorporated area of San Diego County. Similar LOS Tables from the appropriate local jurisdiction should be used for local roads outside of the unincorporated area. Upon concurrence with County staff, Highway Capacity Manual (HCM) analysis methods may be used for specified arterials.

The County of San Diego Public Road Standards includes a table which establishes levels of service for County Circulation Element roads based upon average daily trips. This table shall be used in determining the level of service for County Circulation Element roads. The Highway Capacity Manual (HCM) includes analysis criteria for the assessment of the level of service for two-lane highways. The Director of Public Works may, based upon a review of the operational characteristics of the roadway, designate that a HCM analysis be used to determine the level of service for a two-lane County arterial in lieu of the level of service table provided in the County of San Diego Public Road Standards.

In determining the level of service for road segments and intersections outside of the County of San Diego's jurisdiction, the level of service standards for the jurisdiction or agency (Caltrans) shall be used. Early coordination with the affected jurisdiction or agency (Caltrans) should be conducted during the preparation of the traffic impact study.

All level of service measurements for intersections and State highways shall be based upon HCM procedures for peak-hour conditions. The following methodologies for TIS analysis should be used (unless early consultation with the lead agency and Caltrans has established other methods), along with some suggested software packages and options:

- Arterials, Multi-lane and Two-lane Highways, and all other Local Streets - current Highway Capacity Manual [HCM]: w/Highway Capacity Software [HCS].

- Signalized Intersections – HCM: w/HCS, TRAFFIX, SigCinema, and SYNCHRO acceptable to Caltrans; and, HCS, TRAFFIX, SIGNAL 94, and NCAP acceptable to local jurisdictions.

- Unsignalized Intersections – HCM.

- Freeway Segments – HCM or Caltrans District 11 freeway LOS definitions (refer to Attachment A of the Guidelines for Determining Significance for Transportation and Traffic).

- Freeway Weaving Areas – Caltrans Highway Design Manual (Chapter 500).

- Freeway Ramps – Caltrans District 11 Ramp Metering Analysis (Attachment A), and Caltrans Ramp Meter Design Guidelines (August 1995), HCS (for ramp design only).

- Freeway Interchanges – HCM: for diamond interchanges where the timing and phasing of the two signals must be coordinated to ensure queue clearances, consider Passer III-90.

- Transit, Pedestrians, and Bicycles – HCM.

- Warrants for Traffic Signals, Stop Signs, School Crossings, Freeway Lighting, etc. – Manual For Uniform Traffic Control Devices (MUTCD) and California Supplement.

- Channelization and Intersection Geometry - Caltrans' Traffic Manual and Guidelines for Reconstruction of Intersections, City of San Diego's Traffic Impact Study Manual -Appendix 4.

Note: Neither the County nor Caltrans officially advocate the use of any special software packages, especially since new ones are being developed all the time. However, consistency with the Highway Capacity Manual (HCM) is advocated in most cases. The above-mentioned software packages have been utilized locally. Because it is so important to have consistent end results, always consult with all affected jurisdictions, including Caltrans, regarding the analytical techniques and software being considered (especially if they differ from above) for the TIS.

3.0 REPORT FORMAT REQUIREMENTS

A thorough traffic impact study (TIS) will consider the potential effects of all aspects of a project (including all potential on- and off-site transportation impacts and improvements). The study should identify whether impacts are direct or cumulative in nature, determine whether the impacts are significant and proposed mitigation measures for any identified impacts. Direct traffic impacts are those that are caused by

and immediately related to the project. Cumulative traffic impacts are traffic impacts that would result from traffic generated or redirected by the proposed project and past, present or future projects.

3.1 Typical Traffic Impact Study Outline

The required sections of a typical TIS are provided in the outline/Table of Contents below:

COVER PAGE

TABLE OF CONTENTS (Including a list of tables, maps & figures)

GLOSSARY OF TERMS AND ACRONYMS

EXECUTIVE SUMMARY

1.0 INTRODUCTION

- **1.1 Purpose of the Report**
- **1.2 Project Location and Description**
  (Including map of proposed project location & map of TIS Study Area; discuss construction and/or operational traffic, if applicable)
- **1.3 Summary of Significance Criteria**
- **1.4 Congestion Management Program Requirements** (if applicable)

2.0 EXISTING CONDITIONS

- **2.1 Existing Transportation Conditions**
- **2.2 Existing Parking, Transit, & On-site Circulation**

3.0 PROJECT IMPACT ANALYSIS

- **3.1 Analysis Methodology**
- **3.2 Project Trip Generation**
- **3.3 Project Trip Distribution**
- **3.4 Existing + Project Conditions**
- **3.5 Near-Term + Existing Conditions**
- **3.6 Near-Term + Existing + Project Conditions**
- **3.7 Horizon Year** (if applicable)
- **3.8 Horizon Year Transportation + Proposed Project Conditions**
- **3.9 Ramps** (if applicable)
- **3.10 Congestion Management Plan** (if applicable)
- **3.11 Hazards due to an Existing Transportation Design Feature** (if applicable)

3.12 Hazards to Pedestrians or Bicyclists (if applicable)
3.13 Parking Capacity (if applicable)
3.14 Alternative Transportation (if applicable)
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4.0 IMPACT SUMMARY

4.1 Impact Summary Table
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- **4.2.1 Guidelines for the Determination of Significance**
- **4.2.2 Significance of Impacts Prior to Mitigation**
- **4.2.3 Mitigation Measures and Design Considerations**
- **4.2.4 Conclusions**

4.3 Intersections (Signalized & Unsignalized)
- **4.3.1 Guidelines for the Determination of Significance**
- **4.3.2 Significance of Impacts prior to Mitigation**
- **4.3.3 Mitigation Measures and Design Considerations**
- **4.3.4 Conclusions**

4.4 Two-lane Highways
- **4.4.1 Guidelines for the Determination of Significance**
- **4.4.2 Significance of Impacts prior to Mitigation**
- **4.4.3 Mitigation Measures and Design Considerations**
- **4.4.4 Conclusions**

4.5 Ramps (if applicable)
- **4.5.1 Guidelines for the Determination of Significance**
- **4.5.2 Significance of Impacts prior to Mitigation**
- **4.5.3 Mitigation Measures and Design Considerations**
- **4.5.4 Conclusions**

4.6 Congestion Management Plan (if applicable)
- **4.6.1 Guidelines for the Determination of Significance**
- **4.6.2 Significance of Impacts prior to Mitigation**
- **4.6.3 Mitigation Measures and Design Considerations**
- **4.6.4 Conclusions**

4.7 Hazards Due To An Existing Transportation Design Feature (if applicable)
- **4.7.1 Guidelines for the Determination of Significance**
- **4.7.2 Significance of Impacts prior to Mitigation**
- **4.7.3 Mitigation Measures and Design Considerations**
- **4.7.4 Conclusions**

4.8 Hazards To Pedestrians Or Bicyclists (if applicable)
- **4.8.1 Guidelines for the Determination of Significance**
- **4.8.2 Significance of Impacts prior to Mitigation**
- **4.8.3 Mitigation Measures and Design Considerations**
- **4.8.4 Conclusions**

4.9 Parking Capacity (if applicable)
- **4.9.1 Guidelines for the Determination of Significance**

4.9.2 Significance of Impacts prior to Mitigation
4.9.3 Mitigation Measures and Design Considerations
4.9.4 Conclusions

4.10 Alternative Transportation (if applicable)
4.10.1 Guidelines for the Determination of Significance
4.10.2 Significance of Impacts prior to Mitigation
4.10.3 Mitigation Measures and Design Considerations
4.10.4 Conclusions

5.0 SUMMARY OF RECOMMENDED PROJECT DESIGN FEATURES, IMPACTS AND MITIGATION (Include project access and on-site circulation)

6.0 REFERENCES

7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

TECHNICAL ATTACHMENTS (order will be determined by reference in report)

3.2 General Content Guidance

Cover Page
The cover page shall include the following information:

- Project common name
- Project numbers (i.e. TM, ZAP, etc.) including the environmental log number (ER)
- Date (original report date plus all revisions) must be revised during each iteration of the draft report)
- Name of County Approved CEQA Consultant preparing document, firm name (if applicable) and address
- Signature of County Approved CEQA Consultant
- Project proponent's name and address
- The following statement: Prepared for The County of San Diego

Table of Contents (Including a list of tables, maps & figures)
The table of contents should follow the recommended order and format outlined in this document. Page numbers should be assigned when possible especially to all the pertinent tables and figures. Titles of each attachment/appendix should be listed in the order in which they are referenced in the document.

Glossary of Terms and Acronyms
Provide a list of terms and acronyms used in the study.

Executive Summary
Provide a brief summary of the project, the potential impacts and proposed mitigation. No new information should be provided in the summary that is not further explained

elsewhere in the document. The purpose of the summary is to provide a quick reference for the public and decision-makers. Therefore, the language should be less technical than that used in the remainder of the document.

Existing Conditions

Documentation of the existing traffic volumes, levels of service, and geometrics for roads and intersections that may be potentially impacted by the proposed project must be provided. This assessment is typically based upon traffic counts that are less than two years old, unless it can be demonstrated that traffic volumes have not significantly changed since the prior counts were taken. The study should include the following:

- Figure identifying roadway conditions including raised medians, median openings, separate left and right turn lanes, roadway and intersection dimensions, bike lanes, parking, number of travel lanes, posted speed.
- Figure indicating the daily (ADT) and peak-hour volumes.
- Figure or table showing LOS for intersections during peak hours and roadway sections within the study area (include analysis sheets on an appendix).

Analysis Methodology

See Section 2.2 above.

Trip Generation

Estimates of the number of trips that will be generated by the proposed project must be provided. Typically, SANDAG's Brief Guide of Vehicular Traffic Generation rates for the San Diego Region is used to prepare this estimate. Where a specific project is not defined in the Brief Guide then rates recommended by the Institute of Traffic Engineers or detailed case studies may be used to establish the trip rate assumption. The study should include the following:

- Table showing the calculated project generated (ADT) and peak hour volumes.

Trip Distribution

The assignment of the estimated trips generated by the project or redistribution of existing traffic onto the existing and, if applicable, future road networks must be provided. For small projects this is typically done manually based upon traffic engineering judgment. For large projects, trips are distributed onto the road network based upon SANDAG's regional forecasting model, by using a select zone assignment. Per the CMP, large projects must distribute project trips based upon a computer model approved by SANDAG. This is typically, the SANDAG Regional model.

The study should include the following:

- Project Trip Distribution using the current Regional Computer Traffic Model (provide a computer plot) or manual assignment if previously approved. (Identify which method was used.)
- Traffic signal warrant analysis (Caltrans Traffic manual) for appropriate sections.

Site Access

Project site access is analyzed in quantitative or qualitative terms, in conjunction with a review of internal site circulation and access to parking areas. In addition, peak hour LOS may be quantified for primary access points, using the procedures outlined herein. Conflicts that may be created by driveway configuration, placement of the driveway in areas of poor visibility~~,~~ that are close or adjacent to bicycle or pedestrian facilities or in close proximity to busy or congested intersections should be identified. Conflicts with or restrictions of access to publicly or privately owned land should also be identified.

Assessment of adequate primary and secondary access to the project site will be made in coordination with the local fire protection district and, where warranted, other emergency response agencies~~,~~ such as the Sheriff and California Highway Patrol. Documentation and assessment of existing road and intersection geometry may be required to verify whether adequate access may be required. If deficiencies are identified recommendations to correct any deficiencies must be made.

The TIS analysis shall determine the effect that a project will have for each of the previously outlined study scenarios. Peak-hour capacity analyses for freeways, roadway segments (ADTs may be used in lieu of V/C ratios), intersections, and freeway ramps must be conducted for both the near-term and long-term conditions. The methodologies used in determining the traffic impact are not only critical to the validity of the analysis; they are pertinent to the credibility and confidence the decision-makers have in the resulting findings, conclusions, and recommendations. Key assumptions made in the TIS should be documented in the report.

Project-Level & Cumulative Traffic Impacts

State CEQA Guidelines requires that environmental assessments, which include a TIS, take into account the "whole of the action" involved, including on-site, off-site, construction, and operational impacts. This requires impact assessments to evaluate project-level and cumulative impacts.

Project Level

Project-level impacts are impacts that would result solely from the implementation of the project. Since CEQA requires a plan to ground assessment, project impacts are typically evaluated by assessing the existing conditions with the proposed project in place against the existing conditions. Where it can be demonstrated that the proposed project will reasonably come on-line after the completion of nearby transportation projects an opening day assessment may also be required. Coordination with County staff is recommended to ensure that proper assumptions are used in the preparation of an opening day assessment. Project-level impacts would occur when the significance criteria outlined herein is exceeded

Cumulative

CEQA section 15130 provides guidance for assessment of cumulative impacts. Cumulative impact assessments should be based upon 1) a list of projects approach or 2) a General Plan summary of projects approach. The list of projects approach includes a list of past, present and probable future projects producing related or cumulative impacts (includes all projects and if necessary, those projects outside the control of the agency). The General Plan summary of projects approach includes a summary of projects contained in an adopted general plan or related planning document, or in a prior certified/adopted environmental document which described or evaluated regional or area wide conditions contributing to the cumulative impact.

Large projects may be required to provide both levels of evaluation.

Section 15130(a) of the State CEQA Guidelines state that cumulative impacts of a project should be discussed when the project's incremental effect, is considerable. Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. In evaluating cumulative traffic impacts two situations must be evaluated: 1) will build-out of all near term projects result in a cumulative traffic impact and 2) does the amount of traffic generated by the individual proposed project contribute (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact.

If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts. Specific mitigation measures must be identified to mitigate each cumulative traffic impact. Mitigation measures can be fairshare contributions toward scheduled Capital Improvement Projects or the construction of improvements that would mitigate the proposed project's cumulative traffic impacts.

When the applicant/proposed project participates fully in the County's TIF program, no additional cumulative traffic impact assessment will be required unless the proposed project is adjacent to or nearby another local jurisdiction where the potential for direct or cumulative traffic impacts exists. If the proposed project is located adjacent to another jurisdiction or in close proximity to a freeway ramp, additional cumulative traffic impacts out side the unincorporated area and not identified in the County's TIF program may occur. The applicant should coordinate with those jurisdictions or agencies regarding any potential need for traffic studies or mitigation.

In addition, if the applicant/proposed project does not fully participate in the County's TIF Program, a full, complete and detailed cumulative traffic assessment will be required and should include all roads and intersections that may be cumulatively impacted by the proposed project. The detailed cumulative traffic analysis must be based upon the summary of projects approach and include an assessment forecast of

the traffic volumes and impacts that would result from build-out of the general land uses/projects that would be constructed in the future.

Analysis of Potential Impacts

Detailed analysis of the potential traffic impacts, as detailed later in this document, must be provided. Direct and cumulative traffic impacts should be identified. This may necessitate the computation of the percentage of increase of trips at specified road segments or delay at intersections in addition to level of service calculations. More detailed analysis of specific potentially significant impacts may also be required. The following summary tables should be included:

- A summary table showing the comparison of Existing + Project, Existing + Proposed Project, Near-term Cumulative, Existing + Near Term Cumulative, Conditions.
- A summary table showing the project's "significant traffic impacts."

Scenarios to be Studied

An assessment of the proposed project's effects on existing conditions, cumulative conditions and at build-out conditions is required by CEQA. Existing conditions analysis assesses the effects the proposed project would have on the existing road infrastructure and network in the vicinity of the proposed project. The cumulative analysis assesses the effects of the proposed project with other planned development projects in the area. Where noted above, the cumulative traffic assessment may be based upon the County's overall TIF Program and reference this planning document or upon a detailed cumulative analysis based upon the General Plan summary of projects approach. Where a specific plan or the County General Plan includes a summary of projects and the cumulative impacts have previously been assessed and environmental documents certified, the TIS may reference the prior study and show conformity with the specific plan and certified environmental document. Build-out conditions assess the project's impacts to the County's General Plan road network (Circulation Element).

All of the scenarios that may be addressed in the TIS are described below:

Existing

Document existing traffic volumes and peak-hour levels of service in the study area. The existing deficiencies and potential mitigation should be identified.

Existing + Project

Analyze the impacts of the proposed project on top of existing conditions. The study should include the following:

- Figure indicating the daily (ADT) and peak-hour volumes.
- Figure or table showing the projected LOS for intersections during peak hours and roadway sections within the study area (analysis sheets included in the appendix).

Existing + Near-Term Cumulative

Analyze the cumulative condition impacts from "other" approved and "reasonably foreseeable" pending projects (application on file or in the pipeline) that are expected to influence the study area. This is the baseline against which project impacts are assessed. Agencies under which the projects are being developed should make available copies of the traffic studies for the "other" projects. If data is not available for near-term cumulative projects, an ambient growth factor should be used. An ambient growth factor is an estimate of the annual traffic increase in the area. This factor may be based upon a trend analysis of the population or traffic growth from the previous five years.

Existing + Near-Term Cumulative + Proposed Project

Analyze the impacts of the proposed project on top of existing conditions and the identified list of projects (along with their committed or funded mitigation measures, if any). The study should include the following:

- Figure or table showing the projected LOS for intersections during peak hours and roadway sections with the project (analysis sheets included in the appendix).
- Figure showing other projects that were included in the study, and the assignment of their site traffic.

Horizon Year

Identify Year 2030 traffic forecasts or 20-year future conditions through the use of a SANDAG model forecast or other computer model approved by the local agency (If the proposed project generated trips are at or below the trips consistent with the land uses represented in the model, a trip generation comparison may be all that is needed). Include the following in the study:

- Horizon Year ADT and street classification that reflect the Community Plan
- Figure or table showing the horizon LOS for intersections during peak hours and roadway sections with the project (analysis sheets included in the appendix).

Horizon Year + Proposed Project

If the project land uses are more traffic intense than what was assumed in the horizon year model forecasts, analyze the additional project traffic impacts to the horizon year condition. When justified, and particularly in the case of very large developments or new general/community plans, a transportation model should be run with, and without, the additional development to show the net impacts on all parts of the area's transportation system.

For large projects, an opening day or other phasing scenarios may also be required.

For projects that propose to provide an independent cumulative traffic study in lieu of reliance on the County TIF Program traffic study and reports, a comprehensive cumulative traffic study must be provided. Due to the large number of ongoing near-term cumulative projects, extensive scope for a comprehensive list of project near-term cumulative analysis and difficulty to mitigate cumulative traffic impacts on an individual project-by-project basis, the County will typically rely on the General Plan summary of

projects approach for assessment of cumulative traffic impacts. Build-out of the County's General Plan for the area must be assessed and a plan to ground comparison be made to assess potential cumulative traffic impacts onto the existing County road network. Include the following in the study:

- Horizon Year ADT and street classification as shown in the Community Plan.
- Horizon Year ADT and street classification for two scenarios: with the proposed project and with the land use assumed in the Community Plan.
- Figure or table showing the horizon LOS for intersections during peak hours and roadway sections for two scenarios: with and without the proposed project and with the land use assumed in the Community plan (analysis sheets in the appendix).
- For General Plan Amendment projects provide a trip generation summary table. For projects more intense than the existing General Plan, provide a summary table of the Horizon Year analysis with and without the proposed project.

Identification of Mitigation Measures

Specific improvements to mitigate direct impacts must be identified. Fairshare contributions toward improvements will not mitigate a direct impact, The County has adopted a TIF program for the unincorporated area which may be utilized to mitigate cumulative traffic impacts of a proposed project. If cumulative traffic impacts have been identified on roads not included within the TIF program, a project may make a fairshare contribution toward cumulative traffic impacts where the County has a specifically approved capital improvement project, scheduled for completion. If a scheduled capital improvement project is not identified, then specific improvements must be constructed or other appropriate measures implemented to mitigate the cumulative traffic impacts. A list of potential mitigation measures is provided in Section 5.0 of the Guidelines for Determining Significance for Transportation & Traffic. The study should include the following:

- Whenever traffic signals are recommended as a mitigation measure, a traffic signal warrant analysis (Caltrans Traffic manual) must be completed to verify that warrants are met.
- Table identifying the mitigations required that are the responsibility of the developer and others. A phasing plan is required if mitigations are proposed in phases.
- Figure showing all proposed mitigations that include: intersection lane configurations, lane widths, raised medians, median openings, roadway and intersection dimensions, right-of-way, offset, etc.

Other Applicable Concerns

Where applicable, traffic impact studies may also include an inventory and assessment of existing road geometrics for roads and intersections used by project traffic. Assessment of the design features (sharp curves, sight distance at intersections/driveways, and other features) and incompatible uses (farm equipment, oversized loads, etc.) should be provided where the project may significantly increase

hazards due to these items. Refer to the Section 4.5 of the Guidelines for Determining Significance for Transportation & Traffic.

Where parking demand is high or the existing parking supply is low, traffic impact studies should include an assessment of the project's potential impact to parking availability/capacity. The study must demonstrate compliance with the standards set forth by the County of San Diego Zoning Ordinance (Sections 6750-6799) and the County of San Diego Off-Street Parking Design Manual. Projects will be evaluated case-by-case, and an additional parking capacity analysis may be required. Refer to the Section 4.7 of the Guidelines for Determining Significance for Transportation and Traffic for a detailed discussion of parking.

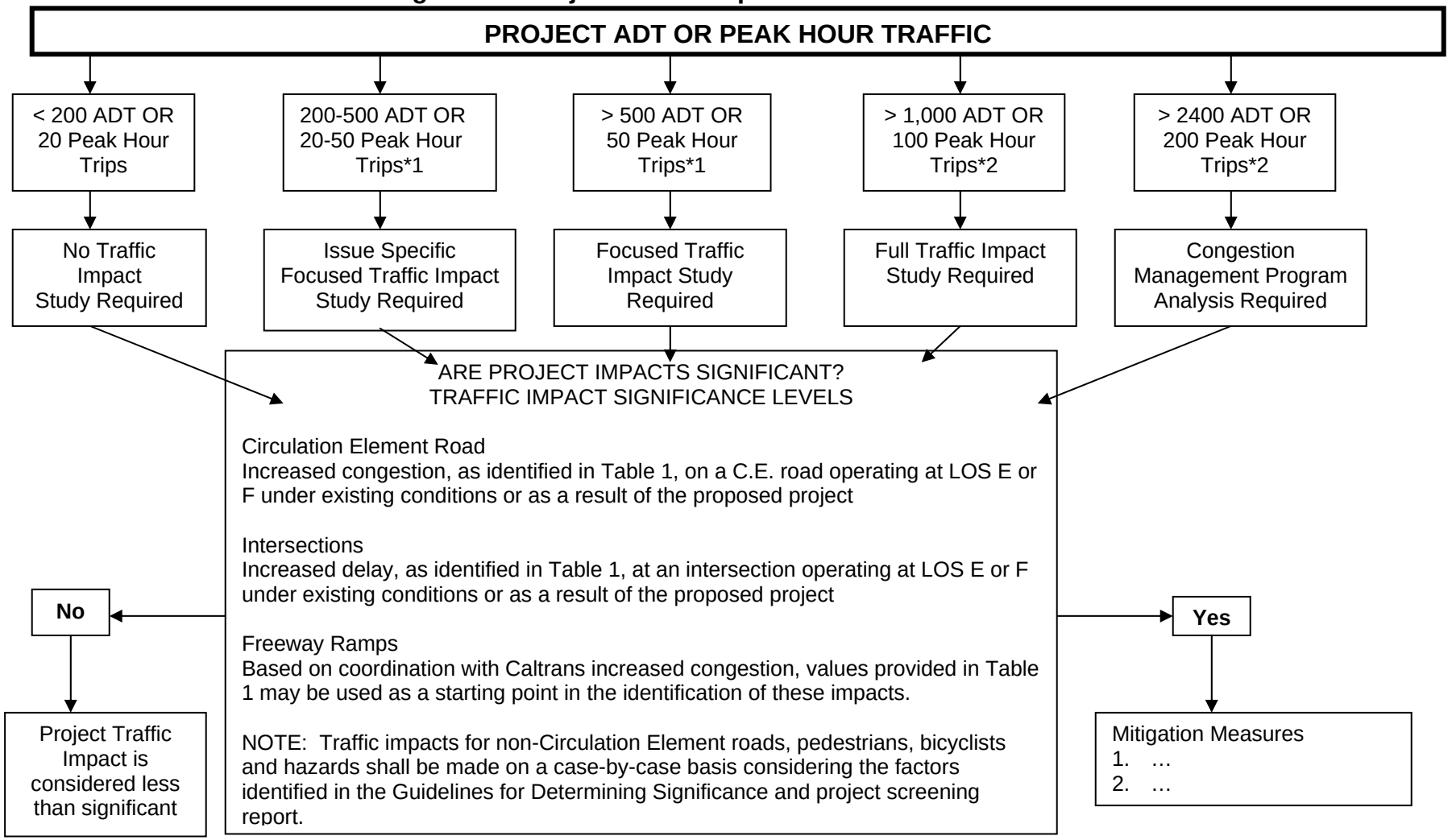
The traffic impact study should also identify adopted policies, plans, and programs supporting alternative transportation modes such as transit. Any conflicts that may result from implementation of the proposed project should be assessed and identified. Project design features such as bus turnouts, bicycle racks, pathways, etc. to help implement the adopted policies, and plans or programs should also be identified. Refer to the Section 4.8 of the Guidelines for Determining Significance for Transportation and Traffic for a detailed discussion of parking

Emergency access should be coordinated with the local fire district, and the Department of Planning and Land Use (DPLU). Although an assessment of the need and adequacy of emergency access is not typically evaluated in a traffic impact study, if it is determined that a secondary access is required, the traffic distribution should include this access if it is open to through traffic. An evaluation of separate access alternatives may be required by DPLU to fully evaluate potential access routes to the proposed project.

Impact Summary Table

An impact summary table should be prepared for all TIS. This table should identify the type of impacts (direct or cumulative), the recommended mitigation measures, and the status of impacts after mitigation (fully mitigated or not).

Figure 1
Significant Project Traffic Impact Assessment Flow Chart



NOTE: For most projects that generate less than 500 ADT, a cumulative traffic analysis will not be required provided the applicant/proposed project fully participates in the County's TIF program. For projects that generate over 500 ADT, a cumulative traffic analysis that assesses cumulative traffic impacts to transportation facilities that will receive 25 or more peak hour trips from the proposed project will be required. For projects that do not fully comply with the County's TIF Program a full, complete and detailed cumulative traffic assessment is required that fully assesses all potential cumulative traffic impacts. The scope of the detailed cumulative traffic assessment will assess roads operating or projected to operate at LOS E or F and that will receive project traffic.

1. Additional criteria for determining whether a Focused Traffic Study will be required: A) Whether or not residential streets will be used to access the project; B) Levels of Service at intersections & road segments in the vicinity of the project; C) Existing road conditions; D) Public Comment.
2. Typically ramp analysis is not required unless it is a CMP project. The need for a ramp analysis is based on the size & proximity of the road system.

[Attachment A]

Ramp Metering Analysis

RAMP METERING ANALYSIS

Ramp metering analysis should be performed for each horizon year scenario in which ramp metering is expected. The following table shows relevant information that should be included in the ramp meter analysis "Summary of Freeway Ramp Metering Impacts."

LOCATION	DEMAND (veh/hr)[1]	METER RATE (veh/hr)[2]	EXCESS DEMAND (veh/hr)[3]	DELAY (min)[4]	QUEUE (feet)[5]

NOTES:

[1] DEMAND is the peak hour demand expected to use the on-ramp.

[2] METER RATE is the peak hour capacity expected to be processed through the ramp meter. This value should be obtained from Caltrans. Contact Carolyn Rumsey at (619) 467-3029.

[3] EXCESS DEMAND = (DEMAND) – (METER RATE) or zero, whichever is greater.

[4] $\text{DELAY} = \dfrac{\text{EXCESS DEMAND}}{\text{METER RATE}} \times 60 \text{ MINUTES/HOUR}$

[5] QUEUE = (EXCESS DEMAND) X 29 feet/vehicle

NOTE: Delay will be less at the beginning of metering. However, since peaks will almost always be more than one hour, delay will be greater after the first hour of metering. (See discussion on next page.)

SUMMARY OF FREEWAY RAMP METERING IMPACTS
(Lengthen as necessary to include all impacted meter locations)

LOCATION(S)	PEAK HOUR	PEAK HOUR DEMAND D	FLOW (METER RATE) F	EXCESS DEMAND E	DELAY (MINUTES)	QUEUE Q (feet)
	AM PM					
	AM PM					
	AM PM					